

DUPONT Delrin[®] 500MT

Medium Toughened, Toughened, Medium Viscosity Acetal Homopolymer

Information provided by DuPont; The Delrin product line was sold by DuPont in 2023 but this specific grade was discontinued prior to the sale

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	ISO 1183
Water Absorption	1.9 % @Thickness 2.00 mm	1.9 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.300 % @Thickness 2.00 mm	0.300 % @Thickness 0.0787 in	2mm; Sim. to ISO 62
Linear Mold Shrinkage, Flow	0.014 cm/cm	0.014 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.015 cm/cm	0.015 in/in	normal; ISO 294-4, 2577
Melt Flow	9.0 g/10 min @Load 2.16 kg, Temperature 190 °C	9.0 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	43.0 MPa	6240 psi	ISO 527-1/-2
Elongation at Break	42 %	42 %	Nominal; ISO 527-1/-2
Elongation at Yield	22 %	22 %	ISO 527-1/-2
Tensile Modulus	1.60 GPa	232 ksi	ISO 527-1/-2
Flexural Modulus	1.50 GPa	218 ksi	ISO 178
Poissons Ratio	0.42	0.42	
Izod Impact, Notched (ISO)	9.00 kJ/m ² @Temperature -40.0 °C	4.28 ft-lb/in ² @Temperature -40.0 °F	ISO 180/1A
	16.0 kJ/m ² @Temperature 23.0 °C	7.61 ft-lb/in ² @Temperature 73.4 °F	ISO 180/1A
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	2.00 J/cm ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	130 µm/m-°C	72.2 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	130 µm/m-°C	72.2 µin/in-°F	ISO 11359-1/-2
Melting Point	178 °C	352 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	127 °C	261 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	66.0 °C	151 °F	ISO 75-1/-2
Flame Spread	<= 80.0 mm/min @Thickness 1.00 mm	<= 3.15 in/min @Thickness 0.0394 in	ISO 3795 (FMVSS 302)
Oxygen Index	20 %	20 %	ISO 4589-1/-2

Processing Properties	Metric	English	Comments
Melt Temperature	200 - 210 °C	392 - 410 °F	Injection

	205 °C	401 °F	Optimum, Injection
Mold Temperature	40.0 - 60.0 °C	104 - 140 °F	Injection
	50.0 °C	122 °F	Optimum, Injection
Drying Temperature	80.0 °C @Time 14400 - 28800 sec	176 °F @Time 4.00 - 8.00 hour	Injection; Dehumidified Dryer
Moisture Content	0.050 %	0.050 %	
Hold Pressure	60.0 - 80.0 MPa	8700 - 11600 psi	Injection
Annealing Temperature	160 °C	320 °F	Optional; 30 min/mm

Descriptive Properties		
Additives	Release agent	
Delivery form	Pellets	
Drying Recommended	yes	
Features	Ultrasonic Weldable	
FMVSS Class	B	ISO 3795 (FMVSS 302)
Hold pressure time (s/mm)	7.5	Injection
Part Marking Code	>POM-I<	ISO 11469
Processing	Extrusion - small Tubing Extrusion - Wire and Cable Injection Molding	
Regional Availability	Asia Pacific Europe Global Near East/Africa North America South and Central America	
Resin Identification	POM-I	ISO 1043